What is claimed is:

1. A ligand-binding solid surface comprising a) a soft metal solid support and b) a heterobifunctional spacer chemi- or physisorbed to said soft metal solid support via soft metal-soft base bonding.

2. A solid surface of claim 1 in which the soft metal solid support is selected from the group consisting of silver, copper, gold, platinum (II), mercury, mercury (II), thallium, cadmium (II), platinum (IV) and palladium (II) covered surfaces.

3. A solid surface of claim 1 in which the heterobifunctional spacer comprises a hydrocarbon having a chain length of about 10 to about 40 carbon atoms.

4. A solid surface of claim 1 wherein the soft base is selected from the group consisting of an RSH, RS^-, R_2S, RSSR, CN^-, $S_2O_3^{2-}$, I^-, R_3P, $(RO)_3P$, C2H4 and C6H6 group, where R is an organic group.

5. A method for preparing a ligand-binding solid surface, comprising:

a) selecting a soft metal solid support; and

b) immobilizing a heterobifunctional spacer on said solid support via soft metal-soft base bonding.

6. A method of claim 5 in which the soft metal solid support is selected from the group consisting of silver, copper, gold, platinum (II), mercury, mercury (II), thallium, cadmium (II), platinum (IV) and palladium (II) covered surfaces.

7. A method of claim 5 in which the heterobifunctional spacer comprises a hydrocarbon of about 10 to about 40 atoms in length.

8. A method of claim 5 wherein the soft base is selected from the group consisting of an RSH, RS^-, R_2S, RSSR, CN^-, $S_2O_3^{2-}$, I^-, R_3P, $(RO)_3P$, C2H4 and C6H6 group, where R is an organic group.

9. An assay system comprising a plurality of surfaces of claim 1.

10. A method for detecting the presence of a biological molecule comprising exposing a sample containing biological molecules to a surface of claim 1, wherein the heterobifunctional spacer includes a ligand for binding to said biological molecules.

11. A surface of claim 1 further comprising an oligonucleotide.